REMARKS

The applicant hereby wishes to elaborate further on the arguments provided in reply to the Final Office Action of 5 January 2011, and to clarify some of the previously presented arguments. In particular, applicant was not arguing Bretez alone, but rather whether the combination and the asserted simple substitution is appropriate. Applicant believes there was a misunderstanding of the argument and respectfully requests a further reconsideration after final. It is truly believed that prosecution can be advanced with this additional consideration.

The applicant believes that Goedicke has the following features in common with the present invention :

- Starting from a steel product provided with a solid metal coating
- Activation by plasma treatment
- Additional metallic element added by PVD
- Diffusing the metallic element into the metal coating via a thermal treatment,

It has been agreed that Goedicke fails to describe the thermal treatment by which the last step is performed. The skilled person could therefore not have known that the use of high energy infra red radiation could have been suitable for this purpose.

Importantly in Goedicke, according to machine translation, Fig. 3 is "a corrosion proof steel sheet metal as final product"; and reference #4 is a "surface layer from a zinc-rich Zn-Fe-alloy, resulted from steered diffusion". **No separate pooling of Fe or additional Fe layer is provided in Goedicke as can be seen in Fig. 3, nor is one desired according to Goedicke.** In direct contrast and according to the explicit disclosure of Bretez when Fe is applied, it has some minimal diffusion, but more importantly results in **a layer of Fe "spreading out as a surface layer on the Zn"**. Bretez at pg. 5, l. 25. Thus, the substitution does not result in the same desired finished product of Fig. 3 of Goedicke and in fact results in a separate layer of Fe, which is not shown to be the desired result in

Goedicke. As a result, there cannot be an expectation of success and in fact the Bretez reference teaches the exact opposite as will be further detailed below. As a consequence, the alleged combination cannot be supported.

Further attention is drawn specifically to the desired result of the heat treatment. For example, when the metal coating is a Zn-coating and the additional element is Mg, the aim is to obtain a layer of Zn with a layer of Zn-Mg alloy on top, or to obtain a layer of Zn-Mg throughout the thickness of the Zn-coating, but without affecting the interface between Fe and Zn.

Bretez discloses the deposition of a Fe-powder onto a molten Zn layer present on a steel substrate, followed by infra red irradiation. A limited diffusion of Fe into the Zn layer is said to take place, however the result is still equivalent to **a layer of Fe 'spreading out as a surface layer on the Zn**', which is different than what is desired in Goedicke. In other words, according to Bretez, the result of the irradiation is a stack of layers consisting of a Zn layer in the molten state, possibly a very thin layer of Fe-Zn, and an Fe layer on top. Indeed, Bretez teaches complete absence of diffusion where applied to aluminum (Pg. 4, 30-31 recites "practically prevents any diffusion of the aluminum into the zinc layer"). As such, a simple substitution is not the case, nor can a reasonable expectation of success be supported.

This result is very different therefore than the desired result in the method of the invention.

At best, the skilled person could have considered on the basis of Bretez, whether a limited amount of diffusion could be achieved by using high energy infra red in the Goedicke process. In fact, Bretez suggests preventing any diffusion in the case of aluminum as noted above. However, the skilled person would have been aware that Bretez describes the heat treatment of a molten Zn-layer. The argument made in the previous reply and clarified here, is that the skilled person would not have concluded on the basis of Bretez, that a significant amount of diffusion would take place when high

energy IR is used on a solid metal coating. In fact, pooling of an additional metal coating will occur according to the description of Bretez which is not shown to be the case in Goedicke. As a result, there is not a rationale reason to combine.

The examiner has pointed out that Goedicke only needs a short heating cycle between 300-400°C, and has requested an argument as to why the heat treatment of Bretez would not have been sufficient in Goedicke's process. It is to be noted that Bretez fails to describe an irradiation time and temperature, so it is difficult to see how the skilled person could have derived from Bretez that the treatment described there would be sufficient in Goedicke's process.

The examiner's position seems therefore not to depend so much on the Bretez reference, but rather on the reasoning that it was obvious to use high energy infra red heating as the 'heat treatment' of Goedicke. In other words, the obviousness rejection is based on Goedicke in view of general knowledge on the use of IR for heat treatment of coatings, such as illustrated for example by the Bretez-reference.

The applicant argues that the above is not a sufficient ground for arguing non-obviousness. Without a reference that discloses or suggests the applicability of high energy IR in a similar case than Goedicke, the skilled person could not have known that such applicability was a fact, and no reasonable expectation of success can be had.

While limiting arguments for brevity purposes, it is also submitted that at least dependent claim 15 has also been overlooked. Further, given that Bretez specifically mentions that it "practically prevents any diffusion of the aluminum into the zinc layer" at page 4, lines 30-31, it is recognized that infrared radiation in Bretez can prevent such diffusion for metallic materials. Thus, when one turns to independent claim 15, which relates to magnesium, it's not seen that there can be a reasonable expectation of success for this specific metallic element. Bretez mentions nothing about, nor suggests anything related to the diffusion of magnesium and as a whole, instead suggests creating an additional independent layer of material, rather than achieving diffusion, or at the most

minimal diffusion in the case of iron with an iron layer on top (which is not magnesium). Accordingly, it is believed that dependent claim 15 has been overlooked in this regard and that the additional substitution advanced in the Final Office Action at paragraph 2, page 6 can therefore not be supported.

Applicant is much appreciative of the detailed comments that have been advanced by the Examiner and is hopeful that the reasoning advanced by the Applicant herein is well received. To hopefully advance prosecution, whether it be to a Notice of Allowance, RCE or Appeal, applicant would invite a telephonic interview with the Examiner and intends to contact the Examiner as to the same. Applicant has kept the comments short and has responded after the Advisory Action as it is believed that it was misunderstood what applicant's prior arguments pertained to and has hopefully clarified the same in the present Response to advance prosecution.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Extension of Time and Fee Deficiency

Applicants believe that a one month extension of time is required. If any additional fee is required, or any overpayment is made, in connection with this communication please charge or credit deposit account No. 50-3505.

Respectfully submitted,

/Andrew J. Heinisch/

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